

Pressure feed coating application system

Abstract

The present invention includes a device and a method of applying a coating to a web. The preferred device comprises a feed nozzle coupled to a stiffener coupled to a spring coupled to a position/force adjuster. The feed nozzle comprises a fluid reservoir, a feed pipe, a metering surface, end seals and a back seal. The stiffener spring, as the frame deflects and polymer covered rolls deform, permits the rotation of the feed nozzle so a proper geometry is maintained, permitting increased control and a wider film thickness control range for a specific nozzle shape. This device permits greater film thickness control, ability to process at much higher speeds than currently achievable, and a wider range of film thickness. This device permits coatings to be applied at much wider ranges of rheological characteristics. Coatings can be applied at higher percent solids with improved characteristics. Multiple feed nozzles provide rapid product changeover for greater equipment utilization and higher productivity.